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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/764,911	01/18/2001	Yoshiharu Chikazawa	PA000002	8193

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EXAMINER	
CHIEN, LUCY P	
ART UNIT	PAPER NUMBER
2871	

DATE MAILED: 06/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/764,911	CHIKAZAWA, YOSHIHARU	
	Examiner	Art Unit	
	Lucy P. Chien	2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *3,5-13,16,19 and 20* is/are pending in the application.

4a) Of the above claim(s) *1,2,4,14,15,17 and 18* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *3,5-13,16,19 and 20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *18 January 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

Applicant's arguments with respect to claim 3-9, 10,20 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

Claim 8 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. The limitation of controlling the distance between the camera and the first array has been added, where until now the specification only had the adjustment of the distance between the image forming side and the array.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 3,5-7,9-13,16,19,20 rejected under 35 U.S.C. 103(a) as being unpatentable over Okano "Real-time pickup method for a three-dimensional image based on integral photography" (***Okano-Real***), Arai et al (JP-10227995), Woodgate (US 6377295), Zeiss (DE 29612054 U) and in view of Sugihara et al IEICE.

Okano-Real discloses (Page 1599, Fig. 2) A 3-D display apparatus image capture unit (lens array, television camera) comprising a set of light detecting elements (the television camera directly shoot the numerous real images to produce an integral photography image as a television signal (Page 1599, 2. Principle of Direct Pickup) responsive to light from said object to provide an image signal representing the object. An image capture array (Fig. 2, lens array) arranged to pass light from said object to the detecting elements (television camera) spaced from said set of image detecting element by a first distance. Also (Figure 2) discloses a display unit (display) comprising: a light source (ambient light); a set of transmissive pixels (Backlit LCDS (which have transmissive pixel) were notoriously well known for better color purity, lightness and taking up less space, and producing more focused light. Some evidence of this is in the Sugihara IEICE reference and the '054 Zeiss reference, each of which lists LCD as the display. Therefore one of ordinary skill would have found reason, motivation and suggestion to employ a better color purity, lightness and producing more focused light LCD panel.

Okano does not show an image display array with user operable position and Okano lacks the adjustability.

Arai et al discloses standard integral photography type systems from both the camera and display sides, which shows movement of the arrays relative to each other.

Woodgate shows a longitudinal position adjuster in Figure 18, which indicates enabling adjustment of the longitudinal image (column 15, rows 56- Column 16, lines 9).

Woodgate indicates that enabling to get the image in the right spot is important for comfort.

Sugihara IEICE discusses adjusting the spacing to control the mismatch of convergence and accommodation (problem discussed in the first column, solution in page 1816). Sugihara clearly shows this moves the displayed image back and forth (See figure 2).

All of the secondary references show the movement of the arrays relative to each other for the benefit of enabling the user to move and/or to keep accommodation and vergence to the same distance for better user comfort. Therefore, it would have been obvious to one of ordinary skill, in the device to employ the relative movement details as claimed for the benefit on enabling user movement and and/or to keep accommodation and vergence to the same distance for better user comfort.

Manual control would have been obvious to one of ordinary skill compared to automatic as it would have been less costly then any automatic control, and to enable the use to find the most comfortable setting. Zeiss '054 shows the motion between the two for the purpose of tracking the user, and Woodgate explicitly indicates manually adjusting the longitudinal position to give the best image quality (column 165, lines 1-9).

Therefore one of ordinary skill would have found reason, motivation and suggestion to modify the reference in this manner for the benefits above and further for the best image quality.

The reference further shows the device in relation to *claim 3* characterized in that the passive first array is moveable and the second array is stationary (shown by Arai).

The reference further shows the device in relation to *claim 5* characterized in that it comprises means for controlling the position of each point of the passive first array and/or each point pf the second array (as shown by Aria).

The reference further shows the device in relation to *claim 6* characterized in that means for controlling the position of each point control the distance of the reproduced object to the arrays (as shown by Arai).

The reference further shows the device in relation to *claim 7* characterized in that said means for controlling the position of each point control the position of the reproduced object in a direction parallel to the surface of the array representing the object (as is inherent as the system is the same).

The references further shows the device in relation to *claim 9* characterized in that it comprises sensor means for detecting the position of the viewer automating. Therefore one of ordinary skill would have been motivated to implement the modification above with detecting the position of the viewer for the benefit of automating the adjustment.

The reference further shows the device in relation to *claims 19, 10, 12 and 16* characterized in that the second array is a flat surface display, such as a liquid crystal

display. Backlit LCDS (which have tansmissive pixelq) were notoriously well known for better color purity, lightness and taking up less space, and producing more focused light. Some evidence of this is in the Sugihara reference and the '054 Zeiss reference, each of which lists LCD as the display. Therefore one of ordinary skill would have found reason, motivation and suggestion to employ a better color purity, lightness and producing more focused light LCD panel.

The reference further shows the device in relation to *claim 11, 13* characterized in that each point of the passive first array is an aperture of a plate, or a lens (Fig. 1 lens array). Apertures and lenses were well known functionally equivalent alternatives. Therefore it would have been obvious to substitute one for there as they were well known in stereoscopic displays to be substantially interchangeable. Evidence of this is found in Okano-Real, which lists in figure 2 lists aperture/lens, indicating aperture or lens can be used. This listing may be construed as giving explicit fruition to embodiments of both standard types.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lucy P. Chien whose telephone number is 571-272-8579. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on (571)272-1787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Lucy P Chien
Examiner
Art Unit 2871

ANDREW SCHECHTER
PRIMARY EXAMINER